

# **How to Squeeze Money Out of DARPA (and other personal musings)**

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**DARPA Young Faculty Workshop**  
HOTEL NAME  
LOCATION  
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### Biography:

- DARPA Program Manager
  - Microsystems Technology Office (MTO)
  - Virtual Space Office (VSO)
- Education
  - B.A., Physics, Carleton College, '91
  - M.S. Civil Engineering, UC Berkeley, '93
  - Ph.D., Mechanical Engineering, UCB '99
  - MBA, Duke University, '03
- Work History
  - CTO, MEMGen, Inc.
  - Lead MEMS Scientist, Becton Dickinson, Inc.
  - Research Consultant, United States Congress Office of Technology Assessment (OTA).
- Key interests
  - Innovation Economies
  - Economics of Microfabrication
  - Autonomous Microsystems: Small satellites, nano air vehicles (NAVs), and small robots
  - 3-D Micro-fabrication



### Current DARPA Programs

- Analog Spectral Processors BAA (ASP)
- Micro Electromagnetic Radio Frequency Systems (3-D MERFS)
- Micro Isotope Power Systems (MIPS)
- Micro-Electric Space Propulsion (MEP)
- SBIR / Inspace / Urban Ops and other efforts

### Active Projects

- Disruptive Manufacturing Technology (DMT)
- Defense Nano-Manufacturing Initiative (NanoFab)
- Revolutionizing Innovation
- (VAULT)



# How to think about DARPA

- DARPA has (virtually) no permanent staff.
- DARPA owns no facilities.
- DARPA owns no computers.
- DARPA owns no labs.

DARPA is a collection of individuals, inside and outside government, tied together by

- Common purpose
- Loose and ever changing set of roles, responsibilities, and contractual relationships

- DARPA has no “position”.
- DARPA has no (stable) processes.
- DARPA is whoever you are talking to at the moment.
- DARPA is you.

# How to approach working with DARPA

## Don'ts

- Do not assume DARPA owes you anything
- Do not bemoan the idiosyncrasies of person in charge: (1) they are in charge now so deal with it, and (2) they'll be gone soon.
- Don't expect that DARPA will be consistent from person to person, or that any specific person will ever do anything the same way twice.
- Do not expect getting money to be quick, easy, or a sure thing.

## Do

- Focus on really understanding problem, and your new idea – extremely high level of play.
- Study the Federal Budget as first cut to understand DARPA's interest areas.
- Take on a customer focus mentality.
- Get to know yourself:
  - What are you willing to fail trying to achieve.
- Get to know decision makers
  - Understand motivations & methods.
  - Understand what they can and will do for you.
- Identify DARPA individuals with shared goals and values
- Establish strong working relationships
- Settle down for the long haul

# Most effective strategies for getting something funded

- Become a program manager and advocate for it yourself.
- Recruit in a program manager who will advocate for it.
- Find an existing program manager already committed to advocating for it. Work with them as:
  - Contractor
  - Performing consultant
  - SETA consultant
  - Colleague (pro bona)
- Find an existing PM who is generally supportive. Do his/her job in preparing all briefing materials.
- Convince an existing PM that they should spend a year of their life advocating for your idea.
- Submit an unsolicited white paper to a range of potentially interested PMs.
- Submit an unsolicited proposal to an open BAA.
- Wait for a BAA to come out in your area and reply.
- Reply to BAAs coming out, even if not in your area.

- Competitive selection
  - Existing DARPA BAA
  - DARPA open BAA
  - BAA anywhere in DoD
  - Added onto a contract already competitively awarded (must fall within scope and be modest dollar increase)
  - Sole source
  - Low-value awards
- Contracting vehicle
  - New contract (2-5 months)
  - Existing DARPA contract (1-2 months)
  - Existing DoD contract

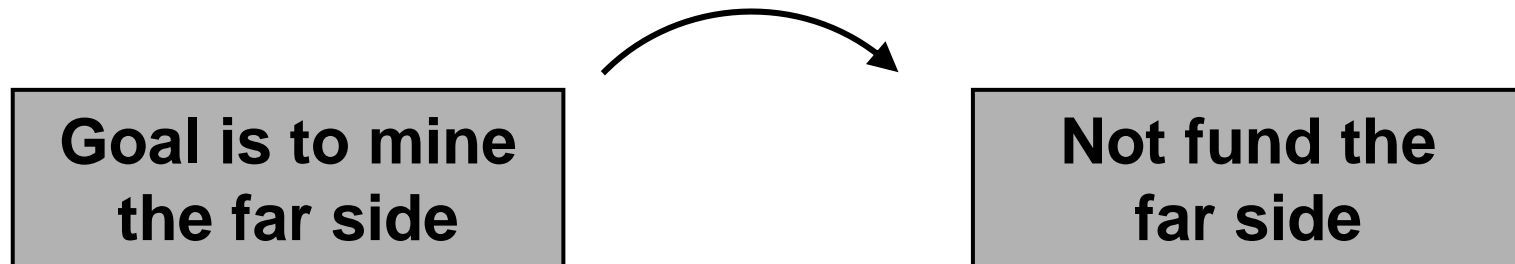
# The BAA “Process”

- Program Manager “has” an idea
- Idea may be placed in Federal Budget (POM)
- Formative research. Consultants / studies, etc. (3 mo.-2 yr.)
- Work on BAA brief (3 months)
- New Start Brief (2-6 mo.)
- BAA Drafting (1 mo)
- Proposal writing (2 mo)
- Review process (1 mo)
- Source Selection Briefing (2-6 mo)
- Contracting (5 mo.)
- Program Start



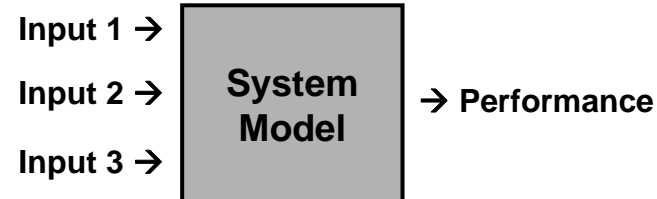
- Be key player in structuring BAA before it comes out.
- Don't respond to a BAA unless you are well positioned already. Spend the time building your core competencies instead.
- Read every word. Treat every word in the BAA seriously unless you are specifically told otherwise.
- Communicate with PM directly and as often as the PM will tolerate.
- Deliver what the PM asks for
  - Do not argue that the BAA is pursuing the wrong problem.
  - Do not argue that the goals are unachievable
- The goal of a proposal is to chart a path to achieving program goals.
  - Propose the lowest risk effort you can.
  - Don't pad. Include ONLY what is necessary to achieve program goals.
  - Make your schedule as aggressive as possible. (Generally faster costs less, not more.)

- Purpose of a program is to determine whether a particular technical approach will enable program objectives.
- The goal is NOT to provide a group time and funding so they can *figure it out*.

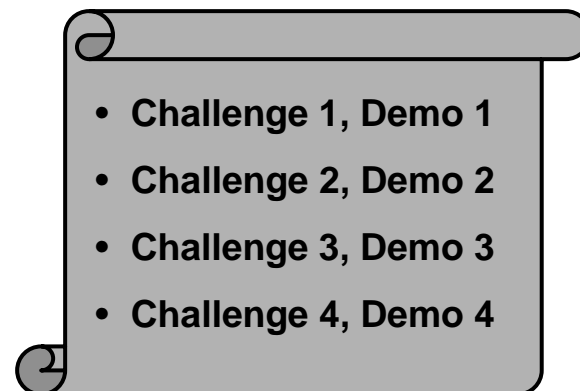


# How to Structure an Evans Proposal in Q4CY06

- Create a model for the objective device
- Identify specific objective values for system parameters
- Identify specific challenges / risk elements that must be addressed.
- For each challenge, specify a demonstration with specific metrics that unambiguously define success or failure.
- Rank risk elements in order of importance / difficulty (long-poles)

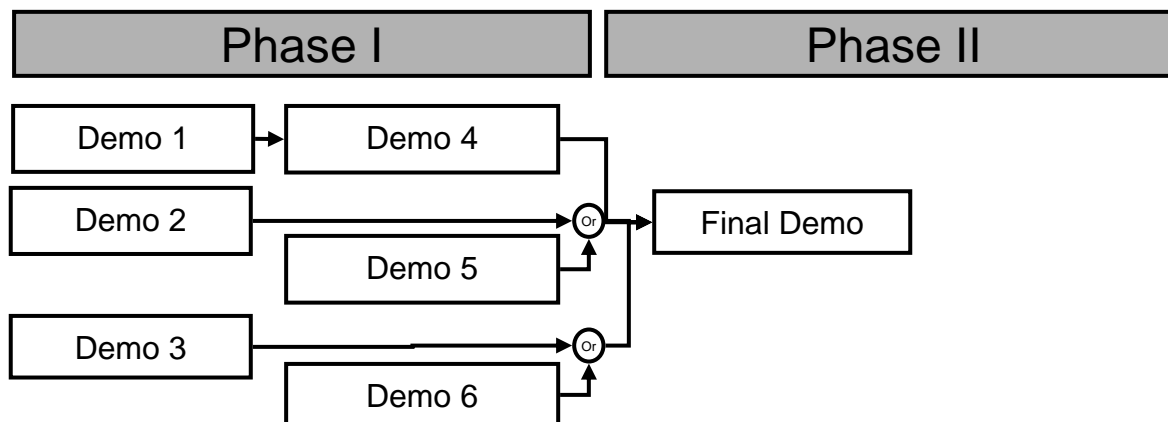


Parameter	Now	Objective	Delta
Input1	$X_1$	$X_2$	$\Delta X$
Input2	$Y_1$	$Y_2$	$\Delta Y$
Input3	$Z_1$	$Z_2$	$\Delta Z$



# How to Structure an Evans Proposal in Q4CY06

- Arrange in network diagram according to dependency.
- Remove all demos that do not contribute to final demo.
- Move all non-dependent demos to far left (unless there is a specific reason to delay)
- Create a work plan, SOW, and budget proposal to achieve program goal.



- Look to yourself...
  - Decide what you want to be good at.
  - See if this provides overlap with DARPA.
- Do not try to be good at everything
  - Identify what you don't want to be good at...
  - Develop partnerships
- Don't assume the project you proposed is the project you will execute.
- Respect the role of the project manager
  - If you are a world expert in your field, do not assume you will be a good at managing your DARPA project
  - Project management, like technical expertise, is acquired through study and practice. Partner with someone who can do that for you.
  - DARPA projects don't just happen. They require strong leadership.